A WORTH WHILE IDEA: MOTOR RURAL EXPRESS

The Twentieth of a Series of Articles on Motor Truck Cost and Performance, Written for Business Men by an Expert.

By GEORGE W. GRUPP.

"Character and quantity of merchan

SAXON PROVES STAMINA.

Makes Remarkable Run of 246

Hard Miles.

Every year since the first Saxon motor car appeared on the market there have

been Saxon drivers to establish new

records of mileage and economy.

Another splendid mark of economy and mileage was added to the long list of Saxon triumphs recently when H. Humphrey of Detroit drove a Saxon roads

At the present time there is consid-erable talk going on about rural ex-erable talk going on about rural ex-"Make a survey of the following depress lines. And it is safe to say that talls: there will be a great deal more of it in the very near future.

Herbert Johnson, an artist for Country Gentleman, gave a wonderful pretation of the rural freight services

a and the present state of freight
gestion in two cartoons. In one
shows the freight agent standing
of freight piled high above the roof
the terminal. Farmers are driving
to the terminal with loaded vehicles.
Take to be carried.

"Population within easy reach of the ntation of the rural freight service des and the present state of freight ongestion in two cartoons. In one nid freight piled high above the roof the terminal. Farmers are driving to the terminal with loaded vehicles The agent shouts to them, "No care! to cars!! Take your stuff back home!" n the other cartoon he shows a rural notor express service truck driving n to the farmer who is perched on le of foodstuffs which he is unable o ship to the city by rail. The truck driver calls to the farmer: "Here, boss can handle it for you!" The farmer both amused and overjoyed by this very fine idea and suggestion. Even the pigs, ducks and chickens grin. It is a relief even for them to know that they are sure of reaching the market before they starve to death.

The first picture shows an extreme state of freight congestion in this coun-try. Manufacturers and city shippers are meeting this difficulty with motor are meeting this difficulty with motor truck overland intercity hauling; but the farmer, who is to "feed the world." is considerably behind in this matter. The rural motor express line idea, which has been indorsed by the Council of National Defence, is being pushed to the fore with much vigor by the National Automobile Chamber of Commerce because of the ald it will be to the farmer in his present hour of need. the farmer in his present hour of need.
Already a number of motor cural express lines have demonstrated to the men back of this flovement that it is both practical and profitable.

Here is a splendid field for men of a light order men of a light.

high order, men of vision—men who possess good common sense, to invest high order, men of vision—then who possess good common sense, to invest some money and start a line in their immediate vicinity. And there is no doubt in the writer's mind that they will and that their investment is both a naverage speed of 31.8 miles an hour, and the gasolene consumption for the profitable, and permanent one if they and the gasolene consumption for the Principal West Side Y. M. C. A profitable, and profitable, and profitable, and profitable, and the delivery of all city shore goods to the farm trade. On the truck's inbound trip it should pick the truck's inbound trip it should pick ways from the smooth white concrete stretches of Wayne county to the heavy of the largest deglers in engines for sand that is characteristic of the county automobiles the world ever has heard of the county to the decides to turn over for re-

ous features about this system of deliv-ry. In the first place, instead of asking the farmer to feed his milk, cream and

njection of 'pep' to the farmer as he will then practice intensive farming AUTO ROW OPENS BIG more extensively for the reason that he has discovered an outlet for his in-treased production. And because of this service he will not need to drive to the ity to deliver his goods. The rural noter express service saves him that ime. This saved time he is then able o put to a more profitable use. In fact his kind of service is most essential these

Reduction in cost of delivery by motor street and Broadway, telephone Circle ral express over other means of trans-

portation is possible because of the fewer number of handlings, fewer breakages of crates and fewer losses due to theft or spoliation. To this one might add that it would be impossible for the crates and fewer losses and the second of the s

seam of horses, to a market a smill odd of products as cheaply as motor real expense service could.

A very fine thing about this idea is that it saves the farmer to necessity to even having to drive to the local freight terminal to pick up freight used to the local resist terminal termina

Clydesdale Trucks Make Fine Record.



riers, such as street cars, waterways, teamsters and other truck routes.

The above are very suggestive and should be given considerable thought Edward A. Hoffmann head of the trailized in the one bir building shown his customers and working with his Hoffmann Motor Company, distributers in the photograph.

The Clydesdale line includes 1½, 2. fice furniture and fine words. He is a

in the photograph.

Sieeves rolled up than he is in fine of have cars of other makes in his shop.

The Clydesdale line includes 1 1/2. 2. fice furniture and fine words. He is a and naturally so, because all sales are

before one goes into this line of service.

Thites to be charged for service such as this is a very important item. As this is a very important item. As packed will not permit I refer the reader to my article on "Motor Trucks Show Value in Intercity Freight Work" which appeared May 5. In this article I brought out the various items of cost which are entailed in any kind of motor trucks and of the Clydesdale truck in the East, and 5 ton trucks and 10 and 5 ton trucks and 10 and 6 ton trucks and 10 and 10 ton tr

AIRPLANE ENGINES . FOR MOTOR CAR USE

Expert Discusses Interestingly the Possibility of Using Rejuvenated Air Motors.

By FRANK P. TENNEY.

try near Camp Custer. Michigan's Na-tional Army cantonment. The fervor for good road building which has swept the juvenation the tens of thousands of ery. In the first place, instead of asking the farmer to feed his milk, cream and other products to his gigs because of the lack of transportation facilities he is and forced detours over the leas freache to furnish the public with an inspace of the special country side.

Lioung Country this year has closed many of their usefulness for flying. Already their usefulness for flying. Already their usefulness for flying and to traffic and forced detours over the leas frequenced and less perfect byways of the gives accumulated at every flying field in this country and at all of the aviation bases. Not all of the airplane enairplane engines which have outlived set of dry cells which run down too low their usefulness for flying. Already for ignition purposes will do for a door bell for a long time and will run sevn bases. Not all of the airplane engines shipped to France are demolished in the course of war. Reading the papers one might be led to believe that, sooner or later, all airplanes are smasked beyond repair or drop within LIBERTY LOAN DRIVE

Winton Headquarters at

Winton Headquarters at

Noon To-morrow.

The stage is set for the big Liberty state of the Automotive and An owner of the Automotive and An owner of the Automotive and Accessory Trades Committee is to colo the city to buy supplies and necessary.

The stage is set for the big Liberty banes is not winging across of full speed full load testing, but I have troops. Those who were in Paris at the transmission and rear axle and see the paris of the transmission and rear axle and see the paris of the transmission and rear axle and see the paris of the transmission and rear axle and see the paris of the transmission and rear axle and see the paris of the transmission and rear axle and see the paris of the transmission and rear axle and see the paris of the transmission and rear axle and see the note of this transmission and rear axle and see the paris of the transmission and rear axle and see the note of this transmission and rear axle and see the note of the transmission and rear axle and see the note of the transmission and rear axle and see the note of the transmission and

Accessory Trades Committee is to conduct on Automobile Row for the next time to to the city to buy supplies and necessities. But with a rural express service in operation all he has to do is to give his order to the driver in the morning and by evening the desired roots are delivered.

The motor rural express service is a minute man to the railroads because it will relieve them of the necessity of rarrying short haul shipments. Then, too, it is able to tap districts which have been reached by railroads and which may never been reached by railroads and markets considerably cheaper. As a result his ability to demand better prices for his really fresh vegetables, milk or eggs from either the market merchant or consumer is strangthened very much.

Reduction in cost of delivery by motor does not signify that it has no useful-ness for other purposes. In fact, this may be the sole source of supply of auto engines for some time to come— efficiency at high speed to gain it at lower speeds; the aero motor sacrifices efficiency at low speed. and against the substitution. The aero as to the course most consistent with engine is made very light—just as light as they dare make them, and they are balanced to a nicety. Lightness is essential, as will be appreciated but the course most consistent with the "win the war" programme, makes them he sitate before making the customary preparations for their course. sential, as will be appreciated, but the ter balancing eliminates much of the vibra-As originally planned, the first shot of the campaign was to have started with a rally at the Automobile Club of America last night, but owing to the heavy preliminary work of the campaign the meeting was postponed until a later and rubber tires on the ground. balancing eliminates much of the violation experienced with the auto motor. The latter rests upon a sturdy steel frame riveted firmly together and suspended on the springs and through these pended on the springs and through these

cally none, since \$5 per cent. use the magneto. At the last automobile show there were only a couple of cars equipped with magneto. They have self-

service the engine is scrapped. It may be in exceptional cases that an engine may reach 200 hours. This does not mean that the motors are wor nout, but they are unsuitable for air service for several reasons. They begin to loosen up, as it is called, and the aviator does up, as it is called, and the aviator does not want to take a chance. The valve cages, for instance, are very thin and sometimes they are ground through; but there are many where this is not true. It is not so good a seat, perhaps, and there may be a loss of 20 or 50 per cent. of power, but this loss can be discounted.

counted.

Some of the parts may be crystal-lized. In rare cases almost the whole engine is crystallized. Parts break from this cause at times. Where it develops the engine is unsafe for air work, where the engine runs under a full load prac-tically all the time the aviator is off the ground, and breakage would mean loss of life; the auto seldom runs under full load and if there were a break it

eral lights for a considerable period. We have a Curtiss engine in our school for instruction purposes which we se-cured because it was no longer safe for

Special Effort Will Begin at Winton Headquarters at

Winton Headquarters at

Winton To recovery the first special because the state of Liberty planes is not-winging across

When one is told that the average life and it is not likely to drop much below that with the ordinary usage of an auto engine. Incidentally there may be an auto engine which can stand 100 hours of full speed full lead testing but I have

From the standpoint of broader policy, the congested state of transportation must be considered as well as the need gasolene for military purposes. so far as the gasolene supply permits passenger automobiles must relieve the date.

Charles M. Brown, chairman of the fragile—bed, supported by struts and ways and railroads just as motor truck-

general in This will aid the farmer to get his crops to the markets and bring to him supplies which he needs.

The root to the markets and bring to him supplies which he needs.

The National Automobile Chamber of The National

PROVING TRUCKS

systems which are likely to show signs of throwing a fit Small Fast Vehicles Move Men of throwing a fit if worn excessively. This trouble is in the nature of rapid oscillating of the front wheels as though With Amazing Rapidity

at Front.

"The great armies abroad are developing transportation to a fine degree of efficiency and they motor truck is the biggest factor in their successful operations," says W. I. Fickling of the New York Fulton Motor Truck Company of 1800 Broadway.

"The light fast truck has proved to

In a special content of the content

from Idling to 20 m. p. h. It sacrifices of findency at high speed to gain it at lower speeds; the zero motor sacrifices efficiency at low speed.

BUY WINTER TIRES NOW.

BUY WINTER TIRES NOW.

Lay In supply White stock Is Here.

"What shall I do with my automobile this winter?" is a question many persons are asking themselves. Doubt as to the course most consistent with the "win the war" programme, makes them besitate before making the coustoms of the first trucks of the type of vehicle that the "win the war" programme, makes them besitate before making the customs of them to the first trucks at a railroad terminals of them besitate before making the customs of the rorts. At railroad terminals of the mobilization of merchandise? Get a low of the first win the war" programme, makes them besitate before making the customs of the car's win- ter use.

I sacrifices and the way to the front reached the are transported in the mate transportant point and the demonstration on the first ground on the demonstration on the front reached the will in driving around on the demonstration on the front reached the war in the steering. Do not try to remedy in the engine and other parts. Bearings of course, can be tightened and certain the engine and other parts. Bearings of the speed and certain the region on some other front. At all time and everywhere it is the small time. Here is an important point. An positione on some other, front. At all time, there is an important point. An of course, can be tightened and certain the engine and other parts. Bearings of the speed and certain the engine and other parts. Bearings of the speed and certain the engine and other parts. Bearings of course, can be tightened up can be parts made to remain quiet for a time. Here is an important point. An of course and take up excessive pia.

I had a talk with a man who said time. Here is an important point. An of the speed of the will pumper be an engine whose pistons and raive up excessive pia.

I had a talk with a man who said time. Here is an impo activities in the field all the way to the our water fronts, at railroad terminals and on interurban and intercity runs and you would see congestion and de-iay and the rotting of foodstuffs and the severe monetary losses cleared up right away. We are moving at a fast page these days and business men who are clinging to antiquated transportation equiment cannot keep up with the pre-

wagon would slow down the horse and wagon would slow down the armies in Europe. Motor trucks have made arm-tes more efficient and they can make business men more efficient."

Goodrich Educates Foreign Help. Since America has been drawn into the world conflict the Americanization of foreign employees of the B. F. Goodrich Rubber tompany at Akron, this, has made rapid etrides. A special educational department has been Serialled in the Goodrich plant for the sole purpose of teaching English and the principles of Americanism to their employees, who represent over twenty different nationalities and races. More than 1,500 foreign employees were enrolled in the Goodrich Americanization classes during the past year. Of this number about 1,000 were taught a working knowledge of our tongue.



Automobiles. Trucks and Tractors that are built for wear have

PUT USED CARS TO PRACTICAL PARAGRAPHS.

With a Little Knowledge You

Will Be Able to Deter-

mine Value.

At this season of the year, and more

if the street is smooth. Take, for example, such small cars as the Ford and Chevrolet. These cars have steering

Dry Bearings. If the oil grooves in the bushings be-come clogged the oil will not be able to reach the surfaces which need it. The use of an excess quantity of graphite sometimes serves to produce this condi-SEVERAL TESTS

Where castellated nuts and cotter pins are not supplied in automobile construc-tion well tempered split washers may be placed under the heads of the bolts to keep them from rattling loose.

Starting System Troubles.

The starting motor takes its current from the storage battery through brushes. It sometimes liappens that these brushes for various reasons are oduction has been cut dewn considerably, there is greater activity in the used car field. Many thousands of prospective owners will need some advice not making proper contact and this means more or less failure of the sys-tem. When trouble arises in this system these brushes should be carefully examon the purchase of a used car so as to be able to avoid buying a wreck with It has been said that a used car is no ined. Again, one of the cells of the stor-age battery runs down before the others, which are therefore called upon to do more work than they are able to handle. better than the dealer or man who sells In our larger cities the newspapers more work than they are able are filled with so-called blind advertise-ments of owners who "must get out of town" or "go to war," or which give some such excuse for selling. The buyer should be very careful of the greater number of these because they are sim-ply poor propositions handled for the dealer by some person who is supposed to be the owner. The very best place to Also a grain of grit or foreign matter may get between the contact points of a switch and make a world of trouble be-fore it is discovered and dislodged.

Fill the Radiator.

In the thermo-syphon cooling system it is important to keep the radiator full or very nearly so, in order that there may be adequate back resistance to keep select for looking over used cars is the salesroom of some reputable dealer on motor row or in the automobile section the water forcing its way forward. It is better to add a little water frequently than to let the matter go until the engine begins to knock for help. motor row or in the automobile section of the city. If you are interested in a used Hudson, go to the liudson dealer; in a Hupmobile, go to the dealer in that car. In this way you are sure at least of getting a car that has been put in shape properly and not "jobbed up" for a sale. Often, however, a dealer will have cars of other makes in his shop, and naturally as hearne all assessment.

In some instances a nut is so place that it is extremely difficult to

it should be neglected. The chassis should be gone over, and if found satis-factory then attention may be devoted to the condition of the uphoistery, the top, curtains, paint, &c. 'These are matters which are not important in the running of a car. A good body won't keep The proper time to examine push rods is when the engine is still hot after a run. If these parts are adjusted when the metal is cold it may well be that because of expansion the valves will car running.
It is a most difficult matter to tell by not seat properly when the parts are a mere drive around the block whether the car is in perfect condition, especially

Here is a simple method of getting-correct brake adjustment. Push the pedal forward about two inches and keep it in that position by means of a small block of wood. Now tighten up the turn buckle or other adjustment until the brakes are sing and when the block of wood is removed it will be found that the slack has been correctly in sections. That is, take a section of found that the slack has been correctly

Do not forget that paint on the motor car is not wholly for looks. Paint pro-tects the surface below it from the ef-fects of moisture or mud. And this is

A Tire Tip

F there is any one thing that cor tributes most toward premature tire destruction it is undoubtedly travelling on tires that are not sufficiently inflated.

sufficiently inflated.

Many motorists give so little care
to their tires that the first intimation
of their improper condition comes
when a muffled sound or a jolt,
caused by one of the wheels coming
in contact with some hard object on the road, discloses the fact that the rim is touching the ground. The envelope is then patched, a new tube fitted and a sleeve put on for the pur-pose of increased strength. The pose of increased strength. The driver then proceeds to the nearest garage, where a new casing is ob-tained, the damaged one being left for repair. Nearly always it is found that the tread is the only part of the casing that has not been totally destroyed. The beads are found to be broken or torn away. The walls of the casing are scored and scraped in-side and out. The canvas is torn and frayed and has broken away from the rubber. The tire has lost its shape entirely; its several parts are disintegrated.

The tube replaced on the road.

which was perhaps new or nearly new when the journey started, has been tern beyond all hope of repair and scraped and scored all over, some of the incisions being almost as deep as the thickness of the rubber itself. All this delay, trouble and expense is the direct result of travelling on a deflated tire, whereas periodic in-spection of the air pressure would have entirely prevented the damage. -Michelin Tire Expert.

break. Better to just remove rust from between the leaves and not use greame

My engine always is covered with oil and I can't find a leak anywhere. It is a Chevrolet 490 and the wires and valves and other parts are always wet with oil. Where does it come from?
P. L. Morrison.

The pistons or rings are probably badly worn, allowing oil to work up through the valves and onto the cylinder The fan draft spreads the oil

What is your opinion of liners for tires? Some say not to use them, but others I know get more mileage out of their tires with reliners in them. How

new ones should not be used except only in sections. That is, take a section of an old casing, remove the tread and a few layers of fabric and use that which

Is it all right to have a spline shaft welded, or would this hold only for a little while? The clutch shaft on my car is all worn so the spimes allow of too



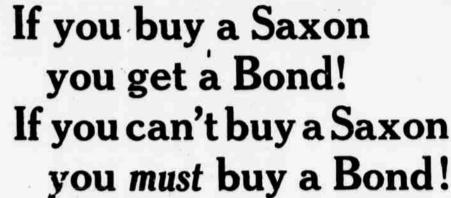
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UNITED MOTOR SERVICE INC. SERVICE DEPARTMENT OF

THE DAYTON ENGINEERING LABORATOMES CO. DAYTON, ONIG







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